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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
MUI, GARY	

ART UNIT	PAPER NUMBER
2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/719,003	VASSEUR ET AL.	
	Examiner	Art Unit	
	Gary Mui	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

On page 19 paragraph 0070, the occurrence of "FIG. 3" should be change to --FIG. 4-- since figure 4 illustrate the computer system described in this part of the disclosure.

On page 19 paragraph 0070, the reference number for the computer system, 140, does not match the reference number in figure 4, which show the computer system as 400. Also the other reference numbers for the components in figure 4 does not match the reference numbers in the disclosure. This occurs throughout the specification.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. Claims 9, 10, 19, and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For claim 9, the recitation of "the one or more processors to perform the steps of the method of any of Claims 5, 6, or 7" is vague and indefinite because it is not known the metes and bounds of the claimed invention. Similar problem exists for claims 10, 19, and 20.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 9 and 10 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

For claim 9, the claim is directed to a computer program per se, which is non-statutory subject matter. The claim recites a computer readable medium comprising one or more sequence of instructions, the claim fails to mention that the computer readable medium in encoded with, stored with, or embodied with "computer executable instructions" and without these components the functionality of the claimed invention cannot be carried out.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1 are rejected under 35 U.S.C. 102(e) as being anticipated by Cain (US, 6,697,325).

For claims 1 and 11, Cain teaches an apparatus for executing the method of receiving information identifying a failed link in the network; receiving information defining one or more shared risk link groups to which the failed link belongs; accessing a link state database that stores information defining one or more links and adjacent nodes; determining whether each link defined in the link state database is in the one or more shared risk link groups; and

removing an adjacent node from the link state database for any link that is determined to be in one of the shared risk link groups (see column 2 lines 66 – 67, column 3 lines 1 – 17 and 50 – 67, and column 4 lines 1 – 3, the node receives a link failure messages and access a topology database to determine if the other nodes are associated with the failed link and then updating the topology database).

For claims 2 and 12, Cain teaches an apparatus for executing the method of determining a shortest path through the network form a source to a destination (see column 4 lines 18 – 38, upon failure new routes are generated using Dijkstra shorts path algorithm).

For claims 3 and 13, Cain teaches an apparatus for executing the method of determining whether a graph of the data communications network based on the link state database is disconnected; and if the graph is disconnected, then determining a new shortest path through the network to a destination network element without removing any link that has not been explicitly reported by another network element as failed (see column 4 lines 18 – 38, upon failure of the link new rouges are generated).

For claims 4 and 14, Cain teaches an apparatus for executing the method of initiating a timer prior to the accessing step; when the timer expires, determining a new shortest path through the network to a destination network element (see column 4 lines 18 – 38).

For claim 9, Cain teaches the use of a computer readable medium with instructions to carry out the methods (see column 6 lines 26 – 41).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cain in view of Beshai et al. (US 6,944,131 B2).

For claims 5 and 15, Cain teaches an apparatus for executing the method of receiving information identifying a failed link in the network; receiving information defining one or

more shared risk link groups S to which the failed link belongs (see column 2 lines 66 – 67, column 3 lines 1 – 17 and 50 – 67, and column 4 lines 1 – 3, the node receives a link failure messages and access a topology database to determine if the other nodes are associated with the failed link). Cain fails to teach during computation of a shortest path first tree, after having added a node X to a path, adding each neighbor Ni of node X to a tentative tree if and only if a link (X, Ni) does not belong to S. Beshai et al. from the same field of endeavor teaches using link-state-change information to update the routes where the link-state change information can be an addition of a new node see columns 3 and 4 lines 47 – 67 and 1 – 18, respectively). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to determine the path as taught by Beshai et al. into Cain's communication network. The motivation for doing this is to have reliable links in the system. For claims 6 and 16, Cain teaches an apparatus for executing the method of receiving information identifying a failed link in the network; receiving information defining one or more shared risk link groups to which the failed link belongs; initiating computation of a shortest path first tree (see column 2 lines 66 – 67, column 3 lines 1 – 17 and 50 – 67, and column 4 lines 1 – 3 and 18 - 38, the node receives a link failure messages and access a topology database to determine if the other nodes are associated with the failed link and computing a new path). Cain fails to teach adding a first node to a path as part of the computation; determining a set of neighbors of the first node; and adding each neighbor node to a tentative tree if and only if a link between the first node and the neighbor node does not belong to one of the shared risk link groups. Beshai et al. from the same field of endeavor teaches using link-state-change information to update the routes where the link-state change

information can be an addition of a new node see columns 3 and 4 lines 47 – 67 and 1 – 18, respectively). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to determine the path as taught by Beshai et al. into Cain's communication network. The motivation for doing this is to have reliable links in the system.

For claims 7 and 17, Cain teaches an apparatus for executing the method of determining whether a graph of the data communications network based on the link state database is disconnected; and if the graph is disconnected, then determining a new shortest path through the network to a destination network element without removing any link that has not been explicitly reported by another network element as failed (see column 4 lines 18 – 38, upon failure of the link new rouges are generated).

For claims 8 and 18, Cain teaches an apparatus for executing the method of initiating a timer prior to the accessing step; when the timer expires, determining a new shortest path through the network to a destination network element (see column 4 lines 18 – 38).

For claim 10, Cain teaches the use of a computer readable medium with instructions to carry out the methods (see column 6 lines 26 – 41).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Regan et al. (US 6,578,086 B1), Doverspike et al. (US 6,982,951 B2), Swallow (US 7,099,286, B1), Eli-Dit-Cosaque et al. (US 7,113,481 B2), Jain (US 2002/0116669 A1), Wang et al. (S 2004/0085894 A1), Qiao et al. (US 2005/0031339 A1), and le Roux et al. (US

2007/0011284 A1) are cited to show a method and apparatus for determining network routing information based on shared risk link group information.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary Mui whose telephone number is (571) 270-1420. The examiner can normally be reached on Mon. - Thurs. 9 - 3 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GM 05.03.2007

RICKY Q. NGO
SUPERVISORY PATENT EXAMINER